CH-1106TX & RX

HDMI v1.3 to CAT6 Transmitter & Receiver with IR return control

Operation Manual

CH-1106TX & RX

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Safety Precautions

Please read all instructions before attempting to unpack or install or operate this equipment, and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

Revision History

Version No	Date	Summary of Change
V1	20091020	Preliminary Release

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1. Introduction

The HDMI 1.3 transmitter and receiver over CAT6 is an extension tool for your long distance HDMI display needs. Instead of using expensive HDMI cables, your existing CAT6 cables/sockets can replace HDMI cables while performing the same functions like transfer Deep Color (12 bits/color) video and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio) Digital audio, at a bandwidth of up to 225MHz. Moreover, user can use the existing remote control to control the source and cascade with multi sets of this device to reach a extrem of the distance. This HDMI 1.3 Transmitter and receiver is your ideal choice when looking for a HDMI extender.

2. Applications

- Showroom display & control
- Window display & control
- Home or individual display & control
- Hyper market display & control
- Lecture room display & control

3. Package Contents

- HDMI 1.3 Transmitter x 1
- HDMI 1.3 Receiver x 1
- IR Eye Receiver cable x 1
- IR Eye Blaster cable x 1
- 5V DC power supply adaptor x 2
- Operation Manual x 1

4. System Requirements

HDMI input source equipment, output HDMI displayer, two CAT6 cables and source equipment's remote control.

5. Features

- Compliant with HDMI 1.3, HDCP 1.1 and DVI1.1 standards
- Supports digital video formats in Deep Color Mode at up to 36 bits (12bits/color) and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio) Digital audio
- Supports CAT-6 cables for data/DDC transmission
- Supports equalize and recover incoming TMDS data before re-transmitting them with optimal quality regardless of the incoming signal quality
- Supports high definition resolution, the HDMI cable distance test with 1080p/8bits & 12bits resolution the Input/Output can reach up to 15/15 meters. With CAT6 cable, distance test with 1080p/8bits & 12bits resolution the Input/Output source can run up to 45/20 meters

  Note:

  A. Cable tested with CAT-6E / 23AWG / Solid and therefore, cable with different specification may result in different distance.

  B. Cable distance tested with equipment PS3 40G, 37" Philips 8 bit LCD TV and 37" SamSung 12 bit LCD TV.

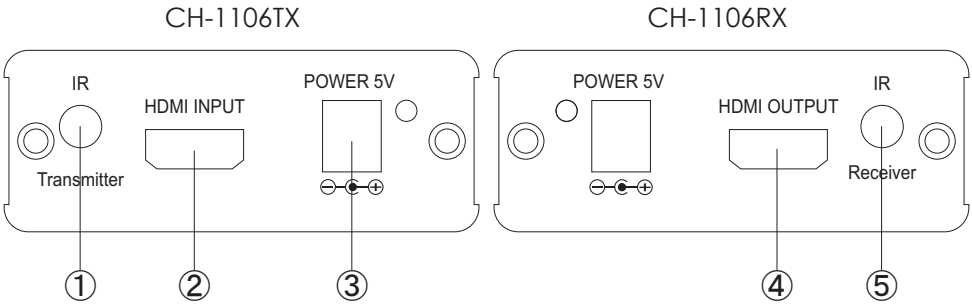
  C. Figures provided in this manual are reference figures only, actual figures may depend on source and display use with cable specification.
- Supports CEC bypass
- Supports xvYCC
- Supports IR Receiver and IR Blaster
- Supports full range of IR frequency from 20~60KHz
- Supports multi cascade for extending the signal distance to extreme

6. Specifications

Transmitter	1 x HDMI
	1 x IR Blaster
	1 x CAT-6 Output Video
	1 x CAT-6 Output DDC
Receiver	1 x HDMI
	1 x Receiver
	1 x CAT-6 Input for Video,
	1 x CAT-6 Input for DDC
HDMI Input Cable	1080p 8-bit (15M), 12-bit (15M)
HDMI Output Cable	1080p 8-bit (15M), 12-bit (15M)
CAT6 Cable	1080p 8-bit (45M), 12-bit (20M)
Power Supply	5V/1A (US/EU standards, CE/FCC/UL certified)
	(US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ± 8kV (air-gap discharge)
	± 4kV (contact discharge)
Dimensions (mm)	78.5(W) x 117(D) x 30(H) / Transmitter
	78.5(W) x 72(D) x 30(H) / Receiver
Weight(g)	200 / Transmitter
	90 / Receiver
Chassis Material	Aluminum
Silkscreen Color	Silver
Operating Temperature	0˚C ~ 40˚C / 32˚F ~ 104˚F
Storage Temperature	-20˚C ~ 60˚C / -4˚F ~ 140˚F
Power Consumption	3.6W/TX, 3.6W/RX
Relative Humidity	20 ~ 90% RH (non-condensing)

7. Operation Controls and Functions

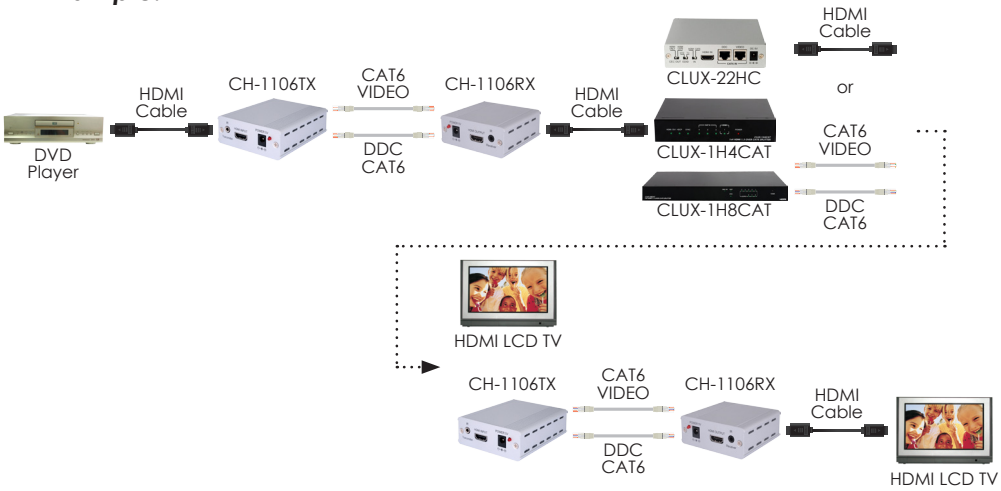
7.1 Front Panel



① IR Transmitter: This slot is where you connect the IR blaster cable and place the IR eye in front of the source equipment(s) for sending the IR signal to the source equipment(s), The IR blaster accepts the frequency range from 20KHz to 60KHz.

② HDMI INPUT: This slot is where you connect to the HDMI or DVI output port of your source equipments such as DVD player or set-top-box with HDMI cable or cascade from the receiver unit or splitter of the same family device for extending signal distance.

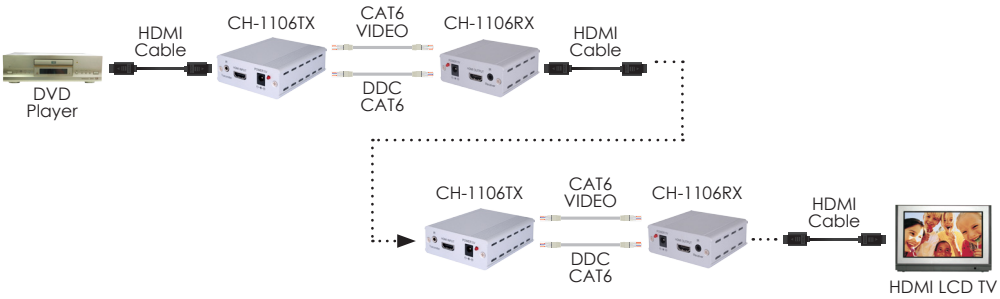
Example:



③ Power: This slot is where you plug the 5V DC power supply into the unit and connect the adaptor to an AC wall outlet.

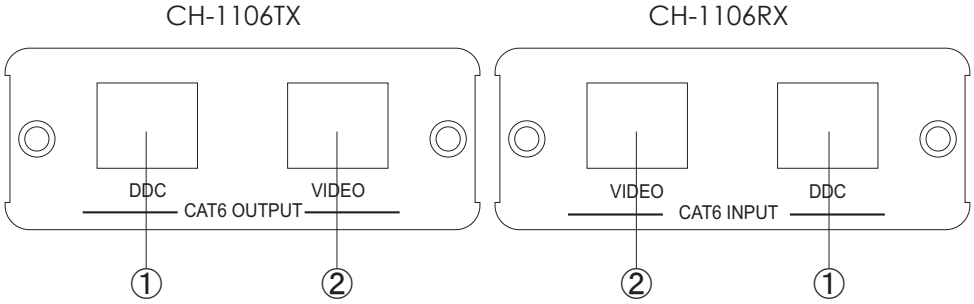
④ HDMI OUTPUT: This slot is where you connect the HDMI or DVI input port of your displayer such as HD TV or HD monitor or cascade to another transmitter unit or splitter of the same family device to extend signal distance.

Example:



⑤ IR Receiver: This slot is where you connect the IR receiver cable and place the IR eye in front of the display then use the existing remote controls to control input source equipment(s). The IR receiver accepts the frequency range from 20KHz to 60KHz.

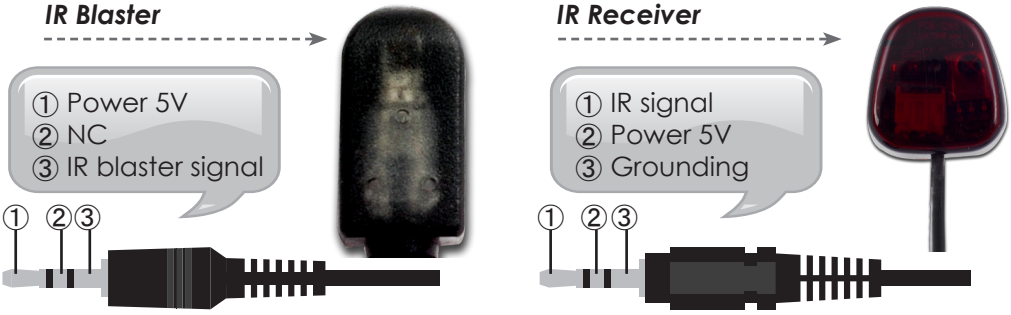
7.2 Rear Panel



① DDC input/output: Connect the DDC output of transmitter to the DDC input of the receiver unit using CAT-6 cable.
② Video input/output: Connect the video output of transmitter to the video input of the receiver unit using CAT-6 cable.

8. Pin Assignment

8.1 IR Cable Pin Assignment

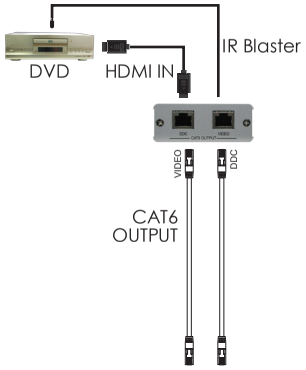


8.2 RJ-45 Pin Definition

Pin	Video	DDC
1	TMDS2+	SCL
2	TMDS2-	N/A
3	TMDS1+	SDA
4	TMDS1-	Power 5V
5	TMDS0+	GND
6	TMDS0-	IR
7	TMDSC+	HPD
8	TMDSC-	CEC

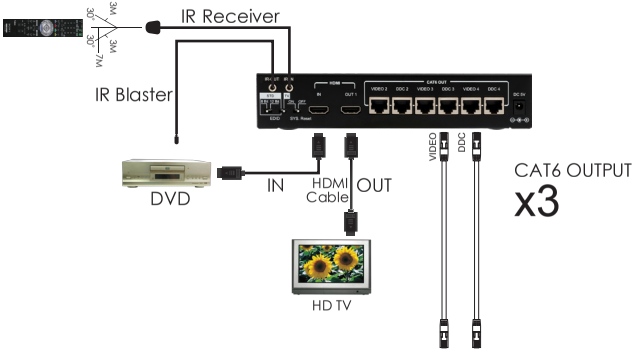
10. Connection and Installation

CH-106TX
CH-1106TX



AorBorC

CLUX-1H4CAT
CLUX-1H8CAT



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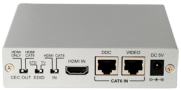
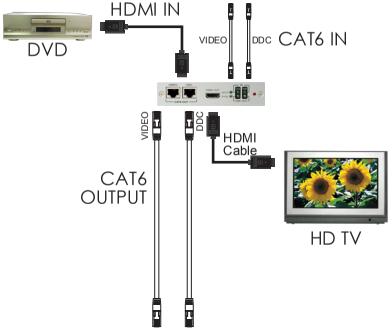
CLUX-22HC



CH-106TX
CH-1106TX
CLUX-1H4CAT
CLUX-1H8CAT
CMLUX-4H4CAT
CLUX-22HC



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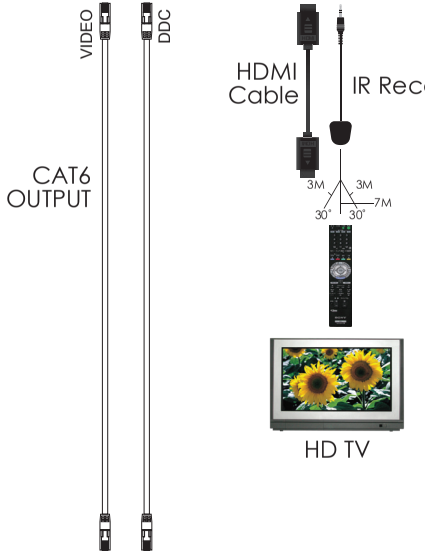
A

CH-106RX / CH-1106RX

B

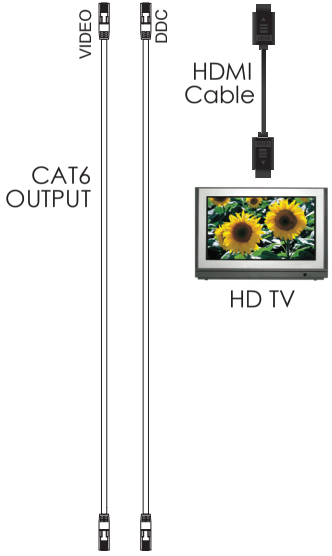
CLUX-1CAT4H / CLUX-1CAT8H



A or B or C

C

CLUX-22HC



A or B or C

Acronyms

A

Acronym	Complete Term
CAT6	Catergory 6 cable
DVI	Digital Visual Interface
ESD	Electrostatic Discharge
GND	Ground
HDCP	High-Bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
IR	Infrared

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